

REF 918 142

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Test 1-42 02.17

NANOCOLOR® Fluoride

Method:

Photometric determination of fluoride with 1,8-dihydroxy-2-(4-sulfophenylazo)naphthalene-3,6-disulfonic acid (SPADNS)

Cuvette:	10 mm
Range (mg/L F ⁻):	0.05–2.00
Wavelength (HW = 5–12 nm):	585 nm
Reaction time:	1 min (60 s)
Reaction temperature:	20–25 °C

Contents of reagent set:

8 x 75 mL Fluoride R1*

* Remove sealing before first use.

Hazard warning:

Reagent R1 contains hydrochloric acid 10–25%.
For further information ask for a safety data sheet.

Preliminary tests:

If the order of magnitude of the concentration in a sample is not known, a preliminary test with Fluoride test paper 2–100 mg/L F⁻ (REF 907 34) rapidly gives this information. From the order of magnitude the required dilution can be calculated and prepared directly.

Interferences:

Only repeatedly and thoroughly rinsed glassware should be used. Sea water and waste water require a distillation.

The following ions will not interfere: < 1000 mg/L Cu²⁺; < 500 mg/L Ca²⁺, Ni²⁺, Zn²⁺; < 200 mg/L Fe³⁺; < 100 mg/L SO₄²⁻; < 50 mg/L Cr(III); < 20 mg/L Si(IV); < 10 mg/L Cr(VI); < 5 mg/L PO₄³⁻, Cl₂; < 0,1 mg/L Al³⁺.

Procedure:

Requisite accessoires: volumetric flasks 25 mL, piston pipette with tips

Pour into two separate volumetric flasks:

Test sample	Blank value
20 mL test sample (the pH value of the sample must be between pH 7 and 13)	20 mL dist. water
3.0 mL R1, mix	3.0 mL R1, mix

Fill up sample and blank value to 25 mL mark with distilled water and mix again. After 1 min pour into cuvettes and measure.

Measurement:

For NANOCOLOR® photometers see manual, test 1-42.

Photometers of other manufacturers:

Verify calibration curve for each type of instrument by measuring standard solutions.

Analytical quality control:

NANOCONTROL Multistandard Metals 1 (REF 925 015)

Analysis with reduced sample volume:

In order to increase the number of determinations, you can work with volumetric flasks of 10 mL: 8 mL test sample + 1.2 mL R1.

Disposal:

The contents of tubes and flasks can be washed into the drain with plenty of water.

Reference:

Standard methods for the examination of water and wastewater (4500-F⁻ D)